Bypass Volumes: 1984-91

Total (intrastate plus interstate) bypass minutes were estimated by the RBOCs and GTE in five surveys conducted by the FCC. The results are reported in the FCC Monitoring Report, (July, 1991), Tables 6.1 and 6.3. We multiply those minutes of use by the fraction of minutes which are interstate (1/(1+0.368) = 0.73) from the Huber Report) to obtain interstate switched access minutes of use which are bypassed for the years 1988, 1889, and 1990. An estimate for 1984 is calculated by observing the growth rate in special access lines (from the FCC Statistics of Communication Common Carriers, 1984-1991) and assuming the growth rates of special access lines and bypass minutes between 1984 and 1990 are the same. An estimate for 1991 is obtained by extrapolating from the 1990 estimate using the 1988-90 growth rate. See Table 3.[22]

Table 3
Growth in Special Access Lines

	Special Access Lines
1984	1,128,924
1985	1,320,228
1986	1,760,741
1987	1,995,739
1988	3,192,682
1989	3,037,268
1990	4,035,297
Growth	23.7%

We then add to the bypass minutes the interstate switched access minutes as reported in the FCC Trends in Telephone Service (February 1992), Table 24, to obtain total switched access minutes of use (including bypass minutes). See Tables 2 and 2A.

[22]Source: FCC, Statistics of Communications Common Carriers.

DEMAND STIMULATION FROM SUBSCRIBER LINE CHARGES AND EXOGENOUS COST CHANGES

LEC interstate revenue requirements recovered from IXCs fell sharply after divestiture due to the increase in subscriber line charges and to the implementation of several exogenous cost changes. Table 4 shows LEC interstate revenue with and without these exogenous changes.[23]

Table 4
Carrier Switched Access Revenue Changes
($000)

Period	CCL + TS Revenue (R_0)	Cumulative Exog Cost Changes	Change in Authorized Rate of Return	Change in CPE and IW Rev Req	SLC Revenue	CCL + TS Revenue R_1
1984-85	$14,464,181	$0	$0	$0	($1,296,104)	$15,760,285
1985-86	$14,955,910	($206,574)	$0	($627,112)	($4,484,658)	$20,274,255
1986-87	$13,669,242	($509,107)	($191,916)	($1,836,941)	($3,646,949)	$19,854,155
1988	$13,680,660	($1,090,281)	($343,170)	($1,821,257)	($4,563,679)	$21,499,046
1989 (4-12)	$12,713,833	($1,345,326)	($352,751)	($1,973,689)	($5,676,620)	$22,062,219
1990-91	$12,148,199	($1,744,907)	($339,278)	($2,409,425)	($6,069,004)	$22,710,813

These reductions in revenue requirements caused interstate carrier access prices to fall and, in turn, caused interstate toll prices to fall. The demand stimulation resulting from the reduction in interstate toll prices can be calculated if the price elasticity of demand for interstate toll service and the

[23]Source: United States Telephone Association, Ex Parte in CC Docket 87-313, filed 8/6/09, Tables 2 and 5.

fraction of IXC cost represented by access charges are known. For simplicity, we assume the demand function for LEC interstate switched access usage has a constant elasticity given by β, so that

$$q_i = Ap_i^{\beta} \quad (i = 1,0) ,$$

and

$$R_i = p_i q_i = p_i \times Ap_i^{\beta} = Ap_i^{\beta+1} \quad .$$

It then follows that:

$$\frac{R_1}{R_0} = \left[\frac{p_1}{p_0}\right]^{\beta+1} ,$$

so that

$$\frac{p_1}{p_0} = \left[\frac{R_1}{R_0}\right]^{\frac{1}{\beta+1}} .$$

Thus the price change required to obtain a 10 percent revenue change differs from 10 percent. Rather than using a percentage price change calculated in this manner to calculate demand response, we can directly solve for the quantity q_1 which would result from imposing a price increase of the magnitude necessary to increase revenues from R_0 to R_1:

$$\frac{q_1}{q_0} = \left[\frac{p_1}{p_0}\right]^{\beta} = \left[\frac{R_1}{R_0}\right]^{\frac{\beta}{\beta+1}} ,$$

so that

$$q_1 = \left[\frac{R_1}{R_0}\right]^{\frac{\beta}{\beta+1}} \times q_0 .$$

The decrease in carrier access revenue due to the reduction in switched access prices caused by the recovery of SLC revenue from end users and the implementation of exogenous cost changes thus causes

an interstate usage increase from q_0 to q_1. We will take the difference $q_0 - q_1$ as our measure of interstate switched access demand stimulation caused by the implementation of SLCs and exogenous cost changes. Using data from the recent price cap filings, we see that demand stimulation from SLCs and exogenous cost changes accounts for about 4.8 percentage points of annual growth since 1984. See Table 5.[24] Annual interstate toll growth averaged about 10.5 percent before divestiture (1962-82) and 11.8

Table 5
Demand Stimulation From SLCs and Exogenous Cost Changes

	BASELINE CL DEMAND (1)	ESTIMATED CL STIM (2)	PERCENT CL STIM (3)	ESTIMATED CL UNSTIM (4)	ANNUAL GROWTH DIFF DUE TO STIM (5)
1984	160,139,810	6,493,672	4.06%	153,646,138	
1988	244,467,327	47,892,584	19.59%	196,574,743	
1989	281,422,756	65,700,270	23.35%	215,722,486	
1990-91	319,437,082	83,216,292	26.05%	236,220,790	
GROWTH:1984-					
1988	11.16%			6.35%	4.80%
1989	11.94%			7.02%	4.91%
1990	12.20%			7.43%	4.77%

percent after divestiture (1984-91).[25] Approximately 8 percentage points of the post-divestiture demand growth were due to carrier access charge reductions (stemming from SLCs and exogenous cost changes). Hence regulatory actions by the FCC explain more than the difference in demand growth before and after divestiture.

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[24]Sources: (1) 7/27/90 USTA Ex Parte, CC Docket 87-313, Table 1; (2) 8/6/90 Ex Parte, Table 8; (3) (2)/(1); (4) (1)-(3); and (5) (1)-(4).

[25]AT&T, "Long Lines Statistics, 1960-1982," and FCC, "Trends in Telephone Service," February 1992.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing "Reply Comments of Bell Atlantic" was served this 5th day of October, 1992, by delivery thereof by first class mail, postage prepaid, to the parties on the attached list.

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